

1A

7: LDD REGION

9: GATE ELECTRODE

10: SIDEWALL

8: GATE DIELECTRIC FILM

2: ELEMENT ISOLATION DIELECTRIC FILM

1: SEMICONDUCTOR SUBSTRATE

6: SECOND IMPURITY DIFFUSION REGION

5: FIRST IMPURITY DIFFUSION REGION

4: SOURCE/DRAIN REGION

1B

↑

z

The graph plots Impurity Concentration on the y-axis against Depth from the Substrate Surface on the x-axis. A solid curve represents the initial impurity profile, peaking near the surface. A dashed curve shows the profile after diffusion, with a broader peak. A double-headed arrow indicates the width of the diffusion region. Labels point to specific regions: 4: SOURCE/DRAIN REGION (the initial peak), 5: FIRST IMPURITY DIFFUSION REGION (the initial peak's base), and 6: SECOND IMPURITY DIFFUSION REGION (the diffusion region's base).